REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated April 20, 2006 (U.S. Patent Office Paper No. 040706), along with a Request for Continued Examination. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-13 stand for consideration in this application, wherein claims 1, 7 and 11 are being amended to correct formal errors and to more particularly point out and distinctly claim the subject invention. All amendments to the application, as well as the arguments presented hereinbelow, are fully supported therein, including page 15, line 24 to page 17, line 23; page 18, lines 15-24; page 20, lines 9-20; and Figures 8-9. Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

The Examiner rejected claims 1-13 under 35 U.S.C. §102(b) as being anticipated by Kametani (US Patent No. 6,839,346). Applicants have reviewed the above rejection, and hereby respectfully traverse.

The present invention as now recited in claim 1 is directed to a packet processing method, comprising the steps of (referring for example to Figures 8-9): providing a packet processing apparatus that incorporates a processor selector (100) for extracting identification information of a transport layer (IN22) that denotes a characteristic of a data flow composed of an input packet from the packet, a processing selecting table (104) for holding a pair of data items that are identification information and a processing to be performed for the packet in advance, a table searcher (101) for searching information in the processing selecting table according to a search key, which is identification information extracted by the processor selector (100), a plurality of independent packet processors (301-306) for processing the packet according to a result of searching in the table (104), and a port selector (400) for sending the processed packet; extracting identification information that denotes a characteristic of a data flow composed of an input packet from the header information of the

packet, wherein the packet processors are one of a plurality of types of packet processors, each being independent for a processing type to be performed for packets; extracting a transport layer state (OUT22) based on the identification information of the transport layer (IN22), wherein the transport layer state (IN22) indicates an arrival history of a packet with respect to each identification information of the transport layer (IN22); and selecting a processing to be performed for the data of a packet in a packet flow for each input packet flow.

As recited in claim 7, the present invention is directed to a packet processing apparatus, comprising: a processor selector (100) for extracting identification information from a transport layer (IN22) that denotes a characteristic of a data flow composed of an input packet from the packet; a processing selecting table (104) for holding a pair of data items that are identification information and a processing to be performed for the packet in advance; a table searcher (101) for searching information in the processing selecting table (104) according to a search key, which is identification information extracted by the processor selector (100); a plurality of independent packet processors (301-306) for processing the packet according to a result of searching in the table (104); and a port selector (400) for sending the processed packet, wherein the processor selector (100) further extracts a transport layer state (OUT22) based on the identification information of the transport layer (IN22), and the transport layer state (OUT22) indicates an arrival history of a packet with respect to each identification information of the transport layer (IN22).

Further, the present invention as recited in claim 11 is directed to a packet processing apparatus, comprising: a processor selector (100) for deciding the source of an input packet; a processing selecting table (104) for holding a pair of data items that are identification information of a transport layer (IN22) and a processing to be performed for the packet in advance; a table searcher (101) for searching information in the processing selecting table (104) according to a search key, which is a source of the packet decided by the processor selector (100); a plurality of packet processors (301-306) for processing the packet according to a result of searching in the table (104); and a port selector (400) for sending the processed packet, wherein the processor selector (100) further extracts a transport layer state (OUT22) based on the identification information of the transport layer (IN22), and the transport layer state (OUT22) indicates an arrival history of a packet with respect to each identification information of the transport layer (IN22).

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Among the main features of the present invention, referring for example to Figure 8 and its corresponding explanations in the specification, processing is selected based on the information of a transport layer (IN22). According the present invention as disclosed in the specification, the transport layer is the upper layer of a network layer (IN21), and the processing related to the transport layer (IN22) is heavier and more complicated than that of the network layer (IN21). For example, the various processings include encapsulation, encryption, etc. (see page 10 of the specification). Thus, the present invention incorporates the structure and operation of a plurality of specialized packet processors (301-306) for processings selected according to a result of searching the table (104).

In contrast, the reference of Kametani '346 merely discloses a table including IP source addresses (see Figure 3), where the search key of this reference's table are network layer information. This reference does not disclose, teach or suggest, among other features, any structure or operation for (1) using transport layer information (IN22) as search key for the processing selecting table (see Figure 8); nor (2) selecting packet processors (301-306) based on the search result of the processing selecting table, as now recited in at least claims 1, 7 and 11.

Consequently, Applicants will strongly but respectfully contend that Kametani '346 cannot anticipate or render obvious each and every feature of the claimed invention. At the very least, this reference fails to show or suggest any structure or operation even remotely similar to those of the processor selector of the present invention.
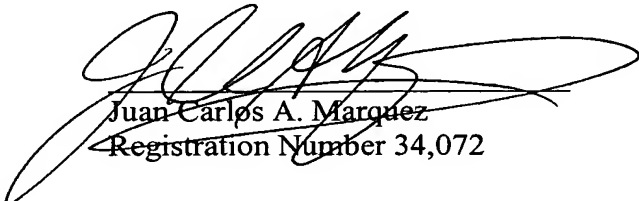

Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

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